WHAT IS CLAIMED IS:

1. A positioning receiver comprising:

phase confirmation means for receiving a signal from each of at least five satellites, locus information of each of which has been received, and confirming the phase of a diffusion code in a condition where said locus information has been obtained from each of said satellites as well as an approximate present time and an approximate position of a receiver is already known; and

coordinate calculation means for establishing at least five simultaneous equations for said at least five satellites respectively to represent a relation between the positions of each of said satellites as well as said receiver and a time required by said diffusion code to arrive at said receiver, and solving said at least five simultaneous equations in order to calculate 3-dimensional coordinates of said receiver, wherein:

said at least five simultaneous equations include five unknown quantities, namely, a reference time, an error of a clock for measuring a diffusion-code reception time for each of said satellites and said 3-dimensional coordinates of said receiver;

said diffusion code is transmitted from each of said satellites at a diffusion-code transmission time

expressed as a sum of a time having a value represented by digits expressing a number equal to or greater than one unitary time corresponding to one period of said diffusion code and a time having a value represented by digits expressing a number smaller than said unitary time; and

said time represented by said digits expressing a number equal to or greater than said unitary time is represented by a sum of said reference time which is common to all said satellites and a differential time which varies from satellite to satellite.

2. A positioning receiver according to claim 1, wherein said coordinate calculation means establishes a distance equation showing that a distance from a coordinate origin to said receiver is a constant and combines said distance equation with four of said simultaneous equations to give five new simultaneous equations for solving said five new simultaneous equations in order to calculate said 3-dimensional coordinates of said receiver.

3. A positioning calculation method for calculating 3-dimensional coordinates of a receiver in a condition where signals are received from at least five satellites, the phase of a diffusion code and locus

information have been obtained from each of said satellites, an approximate present time has been obtained and an approximate position of said receiver is already known, wherein:

said positioning calculation method establishes at least five simultaneous equations for said at least five satellites respectively to represent a relation between the positions of each of said satellites as well as said receiver and a time required by said diffusion code to arrive at said receiver, and solves said at least five simultaneous equations in order to calculate 3-dimensional coordinates of said receiver, wherein:

said at least five simultaneous equations include five unknown quantities, namely, a reference time, an error of a clock for measuring a diffusion-code reception time for each of said satellites and said 3-dimensional coordinates of said receiver;

said diffusion code is transmitted from each of said satellites at a diffusion-code transmission time expressed as a sum of a time having a value represented by digits expressing a number equal to or greater than one unitary time corresponding to one period of said diffusion code and a time having a value represented by digits expressing a number smaller than said unitary

time; and

said time represented by said digits expressing a number equal to or greater than said unitary time is represented by a sum of said reference time which is common to all said satellites and a differential time which varies from satellite to satellite.

4. A positioning calculation method according to claim 3, wherein solutions to said simultaneous equations are calculated by adoption of method of least squares.

5. A positioning calculation method according to claim 3, establishing a distance equation showing that a distance from a coordinate origin to said receiver is a constant and combining said distance equation with four of said simultaneous equations to give five new simultaneous equations for solving said five new simultaneous equations in order to calculate said 3-dimensional coordinates of said receiver.

6. A positioning calculation method comprising:

a first step of receiving a signal from each of at least five satellites, locus information of each of which has been received, and confirming the phase of a diffusion code in a condition where said locus information has been obtained from each of said satellites as well as an approximate present time and an

approximate position of a receiver is already known; and

a second step of establishing at least five simultaneous equations for said at least five satellites respectively to represent a relation between the positions of each of said satellites as well as said receiver and a time required by said diffusion code to arrive at said receiver, and solving said at least five simultaneous equations in order to calculate 3-dimensional coordinates of said receiver, wherein:

said at least five simultaneous equations include five unknown quantities, namely, a reference time, an error of a clock for measuring a diffusion-code reception time for each of said satellites and said 3-dimensional coordinates of said receiver;

said diffusion code is transmitted from each of said satellites at a diffusion-code transmission time expressed as a sum of a time having a value represented by digits expressing a number equal to or greater than one unitary time corresponding to one period of said diffusion code and a time having a value represented by digits expressing a number smaller than said unitary time; and

said time represented by said digits expressing a number equal to or greater than said unitary time is

represented by a sum of said reference time which is common to all said satellites and a differential time which varies from satellite to satellite.

7. A positioning calculation method according to claim 6, wherein said second step establishes a distance equation showing that a distance from a coordinate origin to said receiver is a constant and combines said distance equation with four of said simultaneous equations to give five new simultaneous equations for solving said five new simultaneous equations in order to calculate said 3-dimensional coordinates of said receiver.